

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

5

Claims 1-4 (canceled)

Claim 5 (previously presented): A method for arc straightening in an HID lamp, comprising the steps of:

- 10 determining and selecting a frequency signal or a frequency sweep signal that produces arc straightening for an HID lamp; and
exciting an arc straightening acoustic mode in conjunction with a carrier frequency signal, wherein the exciting step comprises summing the carrier frequency signal with a second frequency signal or second frequency sweep signal to obtain a difference power frequency signal or power
15 frequencies which excite an arc straightening acoustic mode.

Claim 6 (original): The method as defined in claim 5, further comprising the step of controlling an amount of arc straightening by controlling an amplitude of the second frequency signal or the second frequency sweep signal relative to the amplitude of the carrier frequency signal.

20

Claim 7 (currently amended): The A method as defined in claim 1, for arc straightening in an HID lamp, comprising the steps of:

determining and selecting a frequency signal or a frequency sweep signal that produces arc straightening for an HID lamp; and

- 25 exciting an arc straightening acoustic mode in conjunction with a VHF carrier frequency signal, said carrier frequency signal having a frequency higher than the frequency of said frequency signal or said frequency sweep signal,

wherein the exciting step comprises the step of alternating in time continuously the carrier frequency signal and either [[a]] said frequency signal or [[a]] said frequency sweep signal where

- 30 the frequency of the frequency signal or frequency sweep signal is equal to one half the frequency

frequency signal required for producing arc straightening for an HID lamp.

Claim 8 (original): The method as defined in claim 7, further comprising the step of controlling an amount of arc straightening by controlling a duration of the frequency signal or the frequency sweep signal relative to a duration of the carrier frequency signal.

Claim 9 (previously presented): A method for arc straightening in an HID lamp, comprising the steps of:

determining and selecting a frequency signal or a frequency sweep signal that produces arc straightening for an HID lamp; and
exciting an arc straightening acoustic mode in conjunction with a carrier frequency signal, wherein the determining step comprises:
determining a resonance spectrum for the HID lamp;
if a window is present in the resonance spectrum that is above the first azimuthal acoustic mode for the HID lamp and below the first radial acoustic mode for the HID lamp, then selecting a frequency signal that produces arc straightening from within the window; and
if the window is not present, then selecting a frequency range for the frequency sweep signal that produces arc straightening that is above the first azimuthal acoustic mode for the HID lamp and below the first radial acoustic mode for the HID lamp.

Claims 10-16 (canceled)

Claim 17 (previously presented): An HID lamp with arc straightening, comprising:

a discharge vessel containing an ionizable filling; and

a circuit for producing a frequency signal or a frequency sweep signal for exciting an arc straightening acoustic mode in conjunction with a carrier frequency signal in the discharge vessel, wherein the circuit for exciting the discharge vessel includes a component for summing the carrier frequency signal with a second frequency signal or a frequency sweep signal to obtain a difference power frequency signal which excites the arc straightening acoustic mode.

Claim 18 (currently amended): ~~The An~~ HID lamp ~~as defined in claim 13~~ with arc straightening,
comprising:

a discharge vessel containing an ionizable filling; and

a circuit for producing a frequency signal or a frequency sweep signal for exciting an arc

5 straightening acoustic mode in conjunction with a VHF carrier frequency signal in the discharge
vessel, said carrier frequency signal having a frequency higher than the frequency of said frequency
signal or said frequency sweep signal,

wherein the circuit for exciting the discharge vessel alternates in time continuously the carrier
frequency signal and either ~~[[a]]~~ said frequency signal or ~~[[a]]~~ said frequency sweep signal where
10 the frequency of the frequency signal or frequency sweep signal is equal to one half the power
frequency signal required for producing arc straightening for the HID lamp.

Claim 19 (currently amended): ~~The An~~ HID lamp ~~as defined in claim 13~~ with arc straightening,
comprising:

15 a discharge vessel containing an ionizable filling, wherein said vessel has an aspect ratio arranged
such that a second longitudinal acoustic mode in the resonance spectrum for the HID lamp is at a
frequency between a first azimuthal acoustic mode and a first radial acoustic mode; and

a circuit for producing a frequency signal or a frequency sweep signal for exciting an arc
straightening acoustic mode in conjunction with a VHF carrier frequency signal in the discharge
20 vessel, said carrier frequency signal having a frequency higher than the frequency of said frequency
signal or said frequency sweep signal,

wherein the circuit for exciting an arc straightening acoustic mode in conjunction with a carrier
frequency signal in the discharge vessel uses a frequency between ~~[[a]]~~ the first azimuthal acoustic
mode and ~~[[a]]~~ the first radial mode in the resonance spectrum for the HID lamp which also excites
25 the second longitudinal acoustic mode in order to obtain color mixing.